

AMENDMENTS TO THE CLAIMS

Please amend the Claims as follows:

1. (Currently Amended) A method of treating a subterranean zone penetrated by a well bore comprising the steps of:

providing a gelled and cross-linked viscous treating fluid that comprises water, a viscosity producing polymer, a boron cross-linking agent for cross-linking the polymer, and a delayed cross-link delinker wherein the delayed cross-linker is polysuccinimide or polyaspartic acid; and

introducing the treating fluid into the subterranean zone.

2. (Currently Amended) The method of claim 1 wherein the water comprises is fresh water or salt water.

3. (Currently Amended) The method of claim 1 wherein the viscosity producing polymer comprises is guar, a guar derivative, a cellulose derivative, hydroxypropylguar, carboxymethylhydroxypropylguar, carboxymethylguar, hydroxyethylcellulose, hydroxyethylcellulose grafted with glycidol or vinyl phosphonic acid, carboxymethylcellulose, carboxymethylhydroxyethylcellulose, xanthan, or succinoglycan.

4. (Previously Presented) The method of claim 1 wherein the viscosity producing polymer comprises a substantially fully hydrated depolymerized polymer.

5. (Currently Amended) The method of claim 1 wherein the viscosity producing polymer comprises is a substantially fully hydrated depolymerized guar, cellulose derivative, hydroxypropylguar, carboxymethylhydroxypropylguar, carboxymethylguar, hydroxyethylcellulose, carboxymethylcellulose, or carboxymethylhydroxy-ethylcellulose.

6. (Previously Presented) The method of claim 1 wherein the viscosity producing polymer comprises a substantially fully hydrated depolymerized hydroxypropylguar.

7. (Previously Presented) The method of claim 1 wherein the viscosity producing polymer is present in the treating fluid in an amount in the range of from about 0.12% to about 2.5% by weight of the water therein.

8. (Currently Amended) The method of claim 1 wherein the boron cross-linking agent for cross-linking the polymer comprises is boric acid, disodium octaborate tetrahydrate,

sodium diborate, a pentaborate, or a mineral containing boron that is capable of releasing boron upon hydrolysis.

9. (Previously Presented) The method of claim 1 wherein the boron cross-linking agent comprises boric acid.

10. (Previously Presented) The method of claim 1 wherein the boron cross-linking agent is present in the treating fluid in an amount in the range of from about 0.0025% to about 0.1% by weight of the water therein.

11. (Currently Amended) The method of claim 1 wherein the delayed cross-link delinker ~~comprises~~ is polysuccinimide or polyaspartic acid.

12. (Previously Presented) The method of claim 1 wherein the delayed cross-link delinker is present in the treating fluid in an amount in the range of from about 0.1% to about 1% by weight of the water therein.

13. (Previously Presented) The method of claim 1 wherein the viscous treating fluid further comprises a pH adjusting compound.

14. (Currently Amended) The method of claim 13 wherein the pH adjusting compound ~~comprises~~ is sodium hydroxide, potassium hydroxide, or lithium hydroxide.

15. (Previously Presented) The method of claim 13 wherein the pH adjusting compound comprises sodium hydroxide.

16. (Previously Presented) The method of claim 13 wherein the pH adjusting compound is present in the treating fluid in an amount in the range of from about 0.01% to about 1% by weight of the water therein.

17. (Previously Presented) The method of claim 1 wherein the viscous treating fluid further comprises a buffer.

18. (Currently Amended) The method of claim 17 wherein the buffer ~~comprises~~ is sodium carbonate, potassium carbonate, sodium bicarbonate, potassium bicarbonate, sodium diacetate, potassium diacetate, sodium phosphate, potassium phosphate, sodium dihydrogen phosphate, or potassium dihydrogen phosphate.

19. (Previously Presented) The method of claim 17 wherein the buffer comprises sodium carbonate.

20. (Previously Presented) The method of claim 17 wherein the buffer is present in the treating fluid in an amount in the range of from about 0.01% to about 0.25% by weight of the water therein.

21. (Previously Presented) The method of claim 1 wherein the viscous treating fluid further comprises a surfactant, the surfactant being capable of preventing the formation of emulsions between the treating fluid and subterranean formation fluids.

22. (Currently Amended) The method of claim 21 wherein the surfactant ~~comprises~~ is an alkyl sulfonate, an alkyl aryl sulfonate, a salt of dodecylbenzene sulfonic acid, an alkyl trimethylammonium chloride, a branched alkyl ethoxylated alcohol, a phenol-formaldehyde nonionic resin blend, a cocobetaine, a dioctylsodium sulfosuccinate, an imodazoline, an alpha olefin sulfonate, a linear alkyl ethoxylated alcohol, or a trialkyl benzylammonium chloride.

23. (Previously Presented) The method of claim 21 wherein the surfactant comprises a salt of dodecylbenzene sulfonic acid.

24. (Previously Presented) The method of claim 21 wherein the surfactant is present in the treating fluid in an amount in the range of from about 0.01% to about 0.3% by weight of the water therein.

25. (Currently Amended) A viscous treating fluid that delayingly breaks into a low viscosity fluid comprising:

water;
a viscosity producing polymer;
a boron cross-linking agent; and
a delayed cross-link delinker wherein the delayed cross-linker is polysuccinimide or polyaspartic acid.

26. (Currently Amended) The viscous treating fluid of claim 25 wherein the water ~~comprises~~ is fresh water or salt water.

27. (Currently Amended) The viscous treating fluid of claim 25 wherein the viscosity producing polymer ~~comprises~~ is guar, a guar derivative, a cellulose derivative, hydroxypropylguar, carboxymethylhydroxypropylguar, carboxymethylguar, hydroxyethylcellulose, hydroxyethylcellulose grafted with glycidol or vinyl phosphonic acid, carboxymethylcellulose, carboxymethylhydroxyethylcellulose, xanthan, or succinoglycan.

28. (Previously Presented) The viscous treating fluid of claim 25 wherein the viscosity producing polymer comprises a substantially fully hydrated depolymerized polymer.

29. (Currently Amended) The viscous treating fluid of claim 25 wherein the viscosity producing polymer ~~comprises~~ is a substantially fully hydrated depolymerized guar or cellulose derivative comprising hydroxypropylguar, carboxymethylhydroxypropylguar, carboxymethylguar, hydroxyethylcellulose, carboxymethylcellulose, or carboxymethylhydroxyethylcellulose.

30. (Previously Presented) The viscous treating fluid of claim 25 wherein the viscosity producing polymer comprises a substantially fully hydrated depolymerized hydroxypropylguar.

31. (Previously Presented) The viscous treating fluid of claim 25 wherein the viscosity producing polymer is present in the treating fluid in an amount in the range of from about 0.12% to about 2.5% by weight of the water therein.

32. (Currently Amended) The viscous treating fluid of claim 25 wherein the boron cross-linking agent for cross-linking the polymer ~~comprises~~ is boric acid, disodium octaborate tetrahydrate, sodium diborate, a pentaborate, or a mineral containing boron.

33. (Previously Presented) The viscous treating fluid of claim 25 wherein the boron cross-linking compound comprises boric acid.

34. (Previously Presented) The viscous treating fluid of claim 25 wherein the boron cross-linking agent is present in the treating fluid in an amount in the range of from about 0.0025% to about 0.1% by weight of the water therein.

35. (Currently Amended) The viscous treating fluid of claim 25 wherein the delayed cross-link delinker ~~comprises~~ is polysuccinimide or polyaspartic acid.

36. (Previously Presented) The viscous treating fluid of claim 25 wherein the delayed cross-link delinker is present in the treating fluid in an amount in the range of from about 0.1% to about 1% by weight of the water therein.

37. (Previously Presented) The viscous treating fluid of claim 25 that further comprises a pH adjusting compound.

38. (Currently Amended) The viscous treating fluid of claim 37 wherein the pH adjusting compound ~~comprises~~ is sodium hydroxide, potassium hydroxide, or lithium hydroxide.

39. (Previously Presented) The viscous treating fluid of claim 37 wherein the pH adjusting compound comprises sodium hydroxide.

40. (Previously Presented) The viscous treating fluid of claim 37 wherein the pH adjusting compound is present in the treating fluid in an amount in the range of from about 0.01% to about 1% by weight of the water therein.

41. (Previously Presented) The viscous treating fluid of claim 25 that further comprises a buffer.

42. (Currently Amended) The viscous treating fluid of claim 41 wherein the buffer ~~comprises~~ is sodium carbonate, potassium carbonate, sodium bicarbonate, potassium bicarbonate, sodium diacetate, potassium diacetate, sodium phosphate, potassium phosphate, sodium dihydrogen phosphate, or potassium dihydrogen phosphate.

43. (Previously Presented) The viscous treating fluid of claim 41 wherein the buffer comprises sodium carbonate.

44. (Previously Presented) The viscous treating fluid of claim 41 wherein the buffer is present in the treating fluid in an amount in the range of from about 0.01% to about 0.25% by weight of the water therein.

45. (Previously Presented) The viscous treating fluid of claim 25 wherein the treating fluid further comprises a surfactant.

46. (Currently Amended) The viscous treating fluid of claim 45 wherein the surfactant ~~comprises~~ is an alkyl sulfonate, an alkyl aryl sulfonate, a salt of dodecylbenzene sulfonic acid, an alkyl trimethylammonium chloride, a branched alkyl ethoxylated alcohol, a phenol-formaldehyde nonionic resin blend, a cocobetaine, a dioctylsodium sulfosuccinate, an imidazoline, an alpha olefin, sulfonate, a linear alkyl ethoxylated alcohol, or a trialkyl benzylammonium chloride.

47. (Previously Presented) The viscous treating fluid of claim 45 wherein the surfactant comprises a salt of dodecylbenzene sulfonic acid.

48. (Previously Presented) The viscous treating fluid of claim 45 wherein the surfactant is present in the treating fluid in an amount in the range of from about 0.01% to about 0.3% by weight of the water therein.

49. (Currently Amended) A viscous treating fluid comprising a boron cross-linked viscosity producing polymer and a delayed cross-link delinker, wherein the delayed cross-link delinker ~~comprising~~ is polysuccinimide or polyaspartic acid.

50. (Currently Amended) A method of reducing the viscosity of a viscous treating fluid comprising the steps of:

providing a viscous treating fluid that comprises a boron cross-linked viscosity producing polymer and a delayed cross-link delinker, wherein the delayed cross-link delinker ~~comprising~~ is polysuccinimide or polyaspartic acid; and

allowing the cross-linked viscosity producing polymer and the delayed cross-link delinker to interact so as to reduce the viscosity of the viscous treating fluid.

51. (Previously Presented) The method of claim 49 wherein the viscous treating fluid is suitable for placing gravel packs or fracturing subterranean zones.

52. (Previously Presented) The method of claim 49 wherein the boron cross-linked viscosity producing polymer is formed by cross-linking a viscosity producing polymer with a boron cross-linking agent.

53. (Previously Presented) The viscous treating fluid of claim 25 wherein the boron cross-linking agent is capable of crosslinking the viscosity producing polymer.

54. (Previously Presented) The viscous treating fluid of claim 25 wherein the delayed cross-link delinker is capable of chelating boron.

55. (Previously Presented) The viscous treating fluid of claim 25 wherein the delayed cross-link delinker is capable of breaking the viscous treating fluid into a lower viscosity viscous treating fluid.